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## **Civil Engineer (Structural or Hydrology & Hydraulics)**

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### **Position Statement**

Reviewing and evaluating engineering and design of structural and/or drainage projects. Understand structural failure modes and causes and recommend appropriate engineering solutions. Determine and provide current technical information on flood hazards for disaster area to program staff. Understand engineering economics.

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### **Duties**

- ❑ Structural analysis, and evaluation
- ❑ Residential and commercial design of structures
- ❑ Structural failure analysis
- ❑ Determine and disseminate current technical information on flood hazards for disaster area.
- ❑ Identify the need for, initiates and coordinates the reevaluation of existing flood hazard data. Strong emphasis on coordination with State and local experts to establish frequency of current flood event.
- ❑ Determine if any reanalysis of 1% annual chance flood levels is necessary and coordinate with host FEMA Regional office.
- ❑ Coordinate with the Technical Services Branch Chief to obtain damage extent information.
- ❑ Coordinate with Senior Civil Engineer to initiate projects following the National Storm Data Acquisition Plan procedures.
- ❑ Coordinate with the Benefit/Cost Analyst to review Hazard Mitigation Grant Program (HMGP) projects.

### **Knowledge, Skills and Abilities**

#### **Knowledge**

Knowledge of structures, structural analysis and design. Expert knowledge of hydraulics and hydrology; flood hazard identification and risk assessment techniques. Experienced in design of drainage/ hydraulic structures. Understands and can apply basic engineering principles in relation to hazard mitigation. Basic knowledge of National Flood Insurance Policy (NFIP) rules and regulations.

#### **Skills and Abilities**

- ❑ Advanced demonstrated understanding of how structures fail, and failure analysis skills
- ❑ Excellent command of formal English, and demonstrated writing skill
- ❑ Experience in writing complete published technical reports and/or engineering papers
- ❑ Experience in economic analysis
- ❑ General and advanced engineering principles for a variety of water related civil projects
- ❑ Ability to manage project details; includes assessment, analysis, and prioritization of issues in order to formulate appropriate responses based on an overall vision.
- ❑ Ability to accept responsibility, make independent decisions, and solve problems.

- ❑ Ability to work under pressure to accomplish multiple tasks under short timelines in a politically sensitive environment.
- ❑ Excellent verbal communication skills
- ❑ Can proficiently use MS Office programs and navigate FEMA internal databases.